Clint Smith

Software Engineer

Profile

I'm a software engineer passionate about solving meaningful problems and delivering high-quality, maintainable solutions. As an individual contributor, I thrive in roles that focus on technical problem-solving and detailed challenges while collaborating with teammates to achieve shared goals.

I'm at my best in environments with clear priorities and well-defined objectives, where I can dive deep into technical work and contribute tangible results. I enjoy mentoring team members, sharing expertise, and delivering thoughtful, well-executed solutions that make a measurable impact.

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Skills

Python
Django
Django Rest Framework
Go (Programming Language)
Backend Development
Celery
Microservices Architecture
Temporal
Postgresql
Git

Employment History

Sr. Backend Engineer at Included Health (formerly Doctor On Demand)

October 2017 — November 2024

Practice Management Engineering Team
Worked on the Practice Management engineering team to transition from legacy technology to a modern, microservice-oriented architecture. This project replaced an outdated in-house EHR (Electronic Health Record) with a third-party system, enabling integration and greater flexibility for future innovation.

- Developed and maintained **Golang microservices** to streamline practitioner management, scheduling/availability, and data synchronization between legacy systems and the EHR.
- Implemented **Temporal workflows** to manage complex interactions with 3rd-party EHR such as appointment booking, patient creation, and on-demand routing. Workflows were often hooked into Kafka events to trigger as a result of new messages on the queue. Additionally, leveraged the **actor pattern** for durable execution and visibility into on-demand routing logic.
- Implemented **gRPC endpoints** for appointment booking, practitioner scheduling/availability, and data synchronization, enabling efficient and scalable inter-service communication.
- Debugged and resolved a critical routing issue where status was being overwritten, enabling stable call routing in preparation for our **production launch**.
- Monitored and analyzed **endpoint latency** using **Prometheus** and **Grafana**, ensuring acceptable performance while scaling practitioner availability systems from 200 to 1,500 providers.

- Collaborated with another team to assess scheduling endpoint performance, proposing and validating fallback strategies for scalability.
- Identified and resolved a critical **department ID mismatch** during on-call duties, unblocking practitioners and maintaining provider trust through direct follow-up.
- Migrated multiple backend services to **Fx**, simplifying dependency injection and improving system maintainability.
- Wrote **acceptance tests** for practitioner availability functionality, ensuring reliable and consistent operations.
- Used an in-house test harness to establish groundwork for on-demand routing acceptance tests, enabling future readiness despite current infrastructure limitations.
- Ensured high-quality unit testing, achieving an **80% test coverage threshold** for key services. Used **Mockery** to create mocks when writing unit tests, ensuring robust and isolated testing of individual components.
- Maintained system health with **OpsLevel**, **Dependabot**, and **Rollbar**, reducing **MTTR** for critical production issues.

Clinical Engineering Team
Contributed to transforming clinical workflows and enhancing the provider and patient experience through innovative tools and efficient backend systems. Over six years, collaborated with cross-functional teams to deliver solutions that supported high-quality care delivery.

- Built and maintained tools using **Python, Django,** and **Django Rest Framework**, enabling providers to access and manage patient information efficiently.
- Developed automation workflows with **Celery**, including **member health summaries** integration for patient preparation and **autocoding medications and allergies**, significantly reducing manual overhead and ensuring data accuracy.
- Upgraded email communication systems from **SendGrid** to **ExactTarget-** , improving reliability and scalability.
- Serialized **clinical data snapshots** into the database during chart sign-off, ensuring reliable and accurate historical record-keeping.
- Designed and implemented a full-stack **Provider Payment Report Generation tool** with **Python/Django, HTML/CSS, JavaScript,** and **S3 Storage**, automating financial reporting for providers.
- Led and contributed to the **Chart Access** project, enhancing provider accessibility to patient charts and supporting seamless care delivery:
    - **Phase 1**: Enabled provider access to patient charts regardless of appointment status, improving care continuity during emergencies, absences, or transitions.
    - **Phase 2**: Expanded Chart Access to care coordinators, improving their ability to assist providers and manage patient cases.
    - **Phase 3**: Scoped and planned the **Unified Encounter Service**, creating a foundation to unify legacy and video visit encounters under a single system with unique identifiers for all past and future visits.
    - **Phase 4**: Unimplemented, but the planned and scoped the association of all past and future **Lab Orders, Radiology,** and **Prescriptions** with the Unified Encounter, eliminating redundant references in the database and ensuring seamless integration across systems.
- Played a key role in reviving the **Panel Management** project, resolving critical performance issues:
    - Optimized backend filtering and data aggregation to enable care coordinators and providers to efficiently manage patient populations based on customizable criteria.
    - Salvaged the project's initial strategy and implemented solutions to ensure a successful release.

- Enhanced **Lab Order handling** in alignment with **CURES Act** compliance, ensuring timely and automated release of lab reports:
  - Identified and resolved critical issues with lab report statuses, improving the accuracy of auto-release processes and ensuring compliance with federal requirements.
  - Collaborated with engineers to troubleshoot and optimize workflows, supporting providers with accurate and timely patient lab results.

- Supported junior engineers by providing guidance and sharing knowledge to foster their professional growth.

Software Engineer at Business Information Technology Solutions (BITS), LLC

October 2015 — October 2017

Subsequent Military Health Contracts

Surveyed and documented current innovation barriers in the Defense Health Agency. Alongside a small team, designed and implemented a prototype web application to reduce the startup overhead often associated with new development teams.

Prototype Microservices Implementation

Implemented prototype microservices, utilizing Python and Falcon Framework. These microservices facilitated the integration of legacy clinical data and medical device data with modern FHIR Server based EHR systems like MHS Genesis and Cerner Millennium.

Software Engineer at THAOINC

October 2014 — September 2015

In the capacity of Software Engineer at THAOINC, the primary focus was on the Optimal Vision Care Prototype (OVCP). Collaborating with healthcare professionals led to significant improvements in the prototype design. The implementation of a structured data entry control streamlined data handling and enhanced user experience.

- Worked closely with physicians to refine design methodologies based on user feedback.
- Introduced a structured input mechanism that improved data entry efficiency and accuracy.
- Facilitated usability testing, leading to a remarkable 66% improvement in user satisfaction scores.

Software Developer at HNu Photonics

June 2012 — October 2014

Investor Engagement: Helped attract investors' attention toward our microfluidics technology by delving into the legacy C# codebase, implementing new features, and introducing improvements. This facilitated effective showcasing of the technology's capabilities and potential by our researchers.

Technology Improvement: Enhanced microfluidics technology design by collaborating with scientists and engineers on experimentation to quantify limitations of current designs.

Software Development Leadership: Pioneered the establishment of software

development practices within the company, addressing the absence of structured methodologies and frameworks. Setup version control system, issue tracker, CI/CD pipeline.

Android-Based Mini-Microscope Application:

Designed and developed an Android application that transformed tablets into interactive microscope displays for students.

Integrated hardware and software, enabling seamless embedding of tablets into specially designed desks for an intuitive, hands-on learning experience.

Facilitated real-time observations, allowing students to analyze specimens from mini-microscopes placed on their desks, enhancing STEM education.

Optimized application performance for smooth video streaming and high-resolution image processing.

Further Work History

For further work history see clintsmith.pro

Education

Regis University at Denver, CO

January 2016 — January 2018

Continuing Education in Computer Science
Completed extensive coursework in computer science, including programming, algorithms, data structures, and software development. Focused on building a strong foundation in core concepts and practical applications.

Texas State Technical College at Waco, TX

Associate's Degree
January 1994 — December 1996

Laser Electro-Optics

Specialized in the principles and applications of lasers, optics, and electro-optical systems. Gained hands-on experience in laser alignment, optical systems, and advanced technologies used in industrial and research settings.